

CLAIMS:

1 1. (new) A screen assembly for a shale shaker, the screen
2 assembly comprising

3 a panel,

4 a support structure,

5 the panel having an area provided with a
6 multiplicity of apertures and at least one layer of screening
7 material arranged over the multiplicity of apertures,

8 the panel having at least one support rib for
9 supporting the panel,

10 the panel removable from said support structure, and

11 at least one member arranged between said panel and
12 said support structure within the perimeter of said panel over
13 which said at least one support rib and said panel is
14 deflectable such that at least two spans are defined by said
15 panel.

1 2. (new) The screen assembly of Claim 1 wherein said support
2 structure is removable from said shale shaker.

1 3. (new) The screen assembly of Claim 1 wherein said screen
2 assembly is insertable into a clamping mechanism of a shale shaker.

1 4. (new) The screen assembly of Claim 3 wherein at least
2 part of said perimeter of said panel, in use is arranged in said
3 clamping mechanism and is pushed on to said support structure when
4 operated.

1 5. (new) The screen assembly of Claim 1 wherein at least one
2 of said support structure and said panel comprises said at least
3 one member over which said panel is deflectable in use.

1 6. (new) The screen assembly of Claim 5 wherein said support
2 structure comprises a structural support member and said panel
3 comprises a corresponding support member, which engage to form said
4 at least one member over which said panel is deflectable.

1 7. (new) The screen assembly of Claim 6 wherein one of said

2 support structure and said support structure has a convex rounded
3 profile and the other has a corresponding concave rounded profile.

1 8. (new) The screen assembly of Claim 6 wherein said support
2 structure comprises a bar or tube extending across a substantial
3 portion of said structural support.

1 9. (new) The screen assembly of Claim 6 wherein said support
2 structure comprises a portions having openings therein.

1 10. (new) The screen assembly of Claim 1 wherein said panel
2 has a pair of opposing sides and a pair of opposing ends, wherein
3 said part of said perimeter is said two opposing sides.

1 11. (new) The screen assembly of Claim 10 wherein said at
2 least one member is arranged equidistant said two opposing sides
3 and is arranged substantially parallel to said two opposing sides.

1 12. (new) The screen assembly of Claim 10 comprising two
2 support members arranged between said two opposing sides and
3 arranged substantially parallel to said two opposing sides.

1 13. (new) The screen assembly of Claim 1 wherein said
2 support structure comprises an outer frame and cross members.

1 14. (new) The screen assembly of Claim 1 wherein said panel
2 comprises a perforate plate, said multiplicity of apertures
3 therein.

1 15. (new) The screen assembly of Claim 15 wherein said panel
2 comprises a flat punched plate.

1 16. (new) The screen assembly of Claim 1 wherein said panel
2 comprises a multiplicity of support ribs.

1 17. (new) The screen assembly of Claim 1 wherein said
2 support rib is fixed to said perforate plate.

1 18. (new) The screen assembly of Claim 16 wherein said
2 multiplicity of said support ribs extend across said panel.

1 19. (new) The screen assembly of Claim 18 wherein said
2 perforate plate comprises a series of panel ribs formed in said
3 perforate plate, said support ribs aligned with and underneath said

4 panel ribs.

1 20. (new) The screen assembly of Claim 1 wherein said panel
2 comprises folded portions.

1 21. (new) The screen assembly of Claim 20 wherein said
2 folded portions are perimeter portions.

1 22. (new) The screen assembly of Claim 20 wherein folded
2 portions form said apertures.

1 23. (new) The screen assembly of Claim 1 wherein said at
2 least one layer of screening material is adhered to at least a
3 portion of said panel.

1 24. (new) The screen assembly of Claim 1 wherein said panel
2 has side portions, which are not provided with apertures.

1 25. (new) The screen assembly of Claim 24 wherein said at
2 least one layer of screening material is adhered to said side
3 portions of said panel.

1 26. (new) The screen assembly of Claim 1 wherein said at
2 least one layer of screening material is adhered to said area
3 provided with apertures.

1 27. (new) The screen assembly of Claim 1 further comprising
2 a second layer of screening material of substantially the same mesh
3 size.

1 28. (new) The screen assembly of Claim 1 further comprising
2 a coarse mesh backing screen between said at least one layer of
3 screening material and said panel.

1 29. (new) The screen assembly of Claim 1 wherein said
2 support structure comprises a plurality of support ribs on which,
3 in use the panel is pushed on to.

1 30. (new) The screen assembly of Claim 29 wherein said
2 support structure has a crowned profile and said panel is crownable
3 over the support structure by a clamping mechanism at an outer
4 perimeter of the panel.

1 31. (new) The screen assembly of Claim 1 wherein said panel

2 is flexible.

1 32. (new) The screen assembly of Claim 31 wherein said at
2 least one layer of screening material is tensioned over said panel
3 wherein tension in said at least one layer of screening material is
4 held by the panel.

1 33. (new) The screen assembly of Claim 32 wherein the panel
2 remains substantially unbending under the tension in said at least
3 one layer of screening material.

1 34. (new) The shale shaker comprising a screen assembly, a
2 basket, a vibratory mechanism, a clamping mechanism for fixing the
3 screen assembly to the basket, and

4 the screen assembly comprising a panel, a support
5 structure, the panel having an area provided with a
6 multiplicity of apertures and at least one layer of screening
7 material arranged over the multiplicity of apertures, the
8 panel having at least one support rib for supporting the
9 panel, the panel removable from said support structure, and at
10 least one member arranged between said panel and said support
11 structure within the perimeter of said panel over which said
12 at least one support rib and said panel is deflectable such
13 that at least two spans are defined by said panel.

1 35. (new) The shale shaker of Claim 34 wherein said clamping
2 mechanism fixes the panel to the support structure.

1 36. (new) The shale shaker of Claim 34 wherein said clamping
2 mechanism comprises a pneumatic apparatus.

1 37. (new) The shale shaker of Claim 36 wherein said
2 pneumatic apparatus comprises a pneumatic hose.

1 37. (new) A method for fitting a screen assembly in a shale
2 shaker, the screen assembly comprising a panel having at least one
3 layer of mesh thereon and a support structure, the panel further
4 comprising at least one support rib for supporting the panel, the
5 method comprising

6 inserting the screen assembly into a clamping

7 mechanism of a shale shaker, and
8 operating the clamping mechanism wherein at least
9 part of a perimeter of said panel of said screen assembly is
10 pushed down over at least one member arranged within the
11 perimeter of the panel such that the at least one support rib
12 and the panel is deflected over the at least one member to
13 define at least two spans.

Respectfully submitted,

Date: _____

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